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Escola de Psicologia

Ana Rita Sousa da Costa

What makes women swipe right: Mate preferences in Tinder



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Mestrado Integrado em Psicologia

Trabalho realizado sob orientação de

Professora Doutora Joana Arantes

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É AUTORIZADA A REPRODUÇÃO INTEGRAL DESTA DISSERTAÇÃO APENAS PARA EFEITOS DE INVESTIGAÇÃO, MEDIANTE DECLARAÇÃO ESCRITA DO INTERESSADO, QUE A TAL SE COMPROMETE;

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(Ana Rita Sousa da Costa)

Index

| | |
|--|-----|
| Agradecimientos..... | iii |
| Resumo..... | iv |
| Abstract..... | v |
| What makes women swipe right: Mate preferences in Tinder | 6 |
| Method..... | 10 |
| Participants..... | 10 |
| Instruments | 12 |
| Procedure | 13 |
| Data analysis | 14 |
| Results | 15 |
| Discussion..... | 20 |
| Conclusion | 22 |
| References | 23 |

Index of Tables

| | |
|--|----|
| Table 1 <i>Correlations between Age, Duration of the Menstrual Cycle, Duration of Menstruation, Frequency of Tinder Use, Tinder Satisfaction, Utility of Tinder, Relationship Satisfaction, Sets (Set 1, Set 2, Set 3, Set 4) and Reaction time (Set 1 RT, Set 2 RT, Set 3 RT, Set 4 RT)</i> | 19 |
|--|----|

Index of Figures

| | |
|--|----|
| <i>Figure 1.</i> Example of a Tinder Profile | 15 |
| <i>Figure 2.</i> Average scores obtained for Set 1, Set 2, Set 3 and Set 4..... | 17 |
| <i>Figure 3.</i> Average scores obtained for Set 1, Set 2, Set 3 and Set 4 between long and short-term preferences | 17 |

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Resumo

Ao longo dos anos, as características preferidas pelas mulheres têm sido documentadas, sendo conhecido que o tipo de relacionamentos que procuram e o ciclo menstrual as influencia. Atualmente, a forma como os casais se encontram e selecionam um parceiro, tornou-se mais fácil através das aplicações e *sites* de encontros. O principal objetivo deste estudo foi entender as preferências das mulheres por fotos de homens fumadores ou não fumadores, com ou sem barba e com ou sem roupas na parte superior do corpo, num cenário do *Tinder*. Tentamos também perceber a influência do tipo de relacionamento e ciclo menstrual. 431 mulheres, com idades entre 18 e 30 anos, responderam a um questionário sociodemográfico e, em seguida, viram 72 perfis do *Tinder*, tendo de deslizar para a direita se gostassem do perfil ou para a esquerda, caso não gostassem. No geral, fotos de homens não fumadores, com barba e com roupas na parte superior do corpo foram preferidas por mulheres heterossexuais, algo também parcialmente verificado para relacionamentos a curto ou longo prazo. As mulheres que estariam a ovular eram mais lentas na escolha, do que as que não estavam. Mulheres não fumadoras tendiam a escolher mais homens fumadores, comparativamente com não fumadoras.

Palavras chave: seleção de parceiros; preferências a curto-prazo; preferências a longo-prazo; preferências das mulheres; *Tinder*

Abstract

The characteristics preferred by women have been documented over several years and are known to be influenced by characteristics such as the type of relationship they are looking for and the menstrual cycle. In addition, nowadays the way couples meet, and individuals select a potential partner has become easier through applications and dating sites. The main aim of this study was to understand women' preferences for photos of men with or without beard, with or without upper-body clothes and smokers or nonsmokers, on a Tinder scenario. We also investigated their preferences depended on the type of relationship they were looking for, as well as the menstrual cycle. 431 women, aged between 18 and 30 years, answered a sociodemographic questionnaire and then viewed 72 Tinder profiles. Their task was to swipe right if they liked the profile or left if they did not. Overall, photos of men with beard, nonsmokers and photos with upper-body clothes were preferred by heterosexual women. Similar results were obtained for women looking for short and long-term relationships. In addition, women that were ovulating were slower when choosing men than women that were not ovulating. Compared with women nonsmokers, women smokers tended to choose more men smokers.

Keywords: mate selection; short-term preferences; long-term preferences; women preferences; Tinder

What makes women swipe right: Mate preferences in Tinder

What do women prefer in a partner? The topic of mate selection has been of huge interest (Shoemaker, 2007; Sprecher, Sullivan, & Hatfield, 1994), and the importance placed on some characteristics in a potential romantic partner it is now known that vary from men to woman (Eastwick & Finkel, 2008; Geary, Vigil & Byrd-Craven, 2004). In fact, some people will be preferred as mates and others will be avoided, showing that the desired to mate with one person is not the same for all people (Buss, 2006). Overall, females are the sex that more invest (Buss & Schmitt, 1993). Trivers (1972), on his theory of parental investment model, stated that females invest more resources on the birth and carrying of the child, pursuing characteristics in her mate that indicate indirect resources, like food, money, protection and security, to help them raise their child, leading to a successful reproduction (Kenrick, 1994).

Women's preferences across the menstrual cycle

Previous research has shown that the menstrual cycle influences women's preferences for male traits (e.g., Little, Jones, & Burriss, 2007). During the ovulation phase, women tend to prefer men with more masculine voices (Puts, 2005), masculine faces (Penton-Voak & Perrett, 2000), and masculine bodies (Little et al., 2007), the odor of symmetric men (Gangestad & Thornhill, 1998), men who exhibit a social presence and intrasexual competitiveness (Gangestad, Simpson, Cousins, Garver-Apgar, & Christensen, 2004), and men who show creative intelligence (Haselton & Miller, 2006). Also, women near the ovulation tend to feel more attracted and flirt more with men that are not their primary partner (Gangestad, Thornhill, & Garver, 2002), show a greater desire to go to clubs and parties where they might meet men (Haselton & Gangestad, 2006), and seem to “dress to impress” (Haselton, Mortezaie, Pillsworth, Bleske-Rechek, & Frederick, 2007). In terms of sexual desire, it seems to show a peak near the ovulation phase, where women also appear to demonstrate more sexual fantasies (Bullivant et al., 2004).

Preferences for long versus short-term partners

Other studies had demonstrated that mating context also influence the preference for certain traits (e.g. Buss & Schmitt, 1993; Stewart, Stinnett, & Rosenfeld, 2000) and for that, human mating cannot be seen as a single strategy (Buss, 2006). Some authors have distinguishing between long-term relationship – one that lasts for a long period of time and is related to marriage (Buss, 2006) – and short-term relationships – one that lasts for few months, days, hours or minutes (Buss & Schmitt, 1993). For a long-term relationship, woman tend to value characteristics such as education, good earning capacity, kindness and understanding, as well as qualities related to resource acquisition, such

as social status, ambition and industriousness (Buss & Barnes, 1986; Chang, Wang, Shackelford, & Buss, 2011; Periloux, Fleishman, & Buss, 2011). For a short-term partner, women prefer those related to sexual desirability and physical appeal, such as physical attractiveness, sexy appearance, healthy and high sex drive (Li & Kenrick, 2006; Regan, Levin, Sprecher, Christopher, & Gate, 2000).

Specific characteristics in potential mates

In terms of specific characteristics that could influence the partner selection, research has shown that faces with beard tend to augment the perceived social status, age and aggressiveness more than clean-shaven faces (Dixon & Vasey, 2012), that faces with light beard are seen as more dominant and light stubble beard as more attractive (Neave & Shields, 2008), and that faces with full beard are perceived as more masculine, aggressive, socially mature and older (Neave & Shields, 2008). In terms of attractiveness, studies had been inconsistent. Whereas some studies have found that men with beard are considered more attractive than clean-shaven faces (e.g., Reed & Blunk, 1990), other studies have demonstrated that they not (e.g., Dixon & Vasey, 2012; Geniole & McCormick, 2015).

Relatively to smoking status, research has demonstrated that smokers are less healthy, attractive, clean, and considerate (Dermer & Jacobsen, 1986; Seiter, Weger, Merrill, Mark McKenna, & Sanders, 2010) and more sexually active (Clark, Klesges, & Neimeyer, 1992) than nonsmokers. Conversely, nonsmokers have been perceived as more healthy, nice and attractive (Amos, Currie, Gray, & Elton, 1998). Also, studies have shown that higher stress and lower social status tend to increase the probability of smoking (Finkelstein, Kubzansky, & Goodman, 2006).

In terms of clothes' preferences, Noh, Li, Martin and Purpura (2015) investigated the things men wanted to accomplish or avoid in accordance to the type of clothes they used. Results showed that in general men want clothes that are comfortable, that gives them a certain confidence and overall fit into the peer norms and avoid certain type of clothes that could be perceived as non-conformist, non-professional or even unusual. Other studies also found that red clothes on women had impact in the way men feel attracted to her (Guéguen & Jacob, 2013; Niesta Kayser, Elliot, & Feltman, 2010), showing that red comparative to other colors increases women attractiveness. However, to our knowledge, no study has yet investigated the preferences between men with and without clothes.

The importance of new technology in meeting potential partners

It is important to note that if in the past the way of meeting and selecting a potential partner was more difficult, nowadays this process has become easier. As stated by Stephure, Boon, MacKinnon and Deveau (2009), before the introduction of online dating sites, finding a romantic partner required the individuals to meet each other face to face before any kind of contact between them. Also,

Rosenfeld and Thomas (2012) referred that the traditional ways to meet potential partners – such as schools, the workplace environment, friends – have declined. Through the advances of the internet, the society have reconstructed the way they initiate and preserve personal relationships (James, 2015) with the online dating becoming one of the ways to meet romantic partners (Clemens, Atkin, & Krishnan, 2015). The mobile phone dating applications have become popular over the years (March, Grieve, Marrington, & Jonason, 2017), with Tinder being one of the apps that have entered into heterosexual market (Duguay, 2017). Tinder uses geo location to connect people and use the Facebook account of each person as a key to log in the app (Mason, 2016; Orosz, Tóth-Király, Báthé, & Melher, 2016). In addition, users can post 6 pictures and write a brief description about them. Tinder app offers many possible dating partners with just a swiping – users can swipe to the right if they like the person or to the left if they dislike. If both users swipe to the right, a match occurs and there is the possibility to message each other (Mason, 2016; Orosz et al., 2016). Sumter, Vandenbosch and Ligtenberg (2017) investigated the motivations of adults to use Tinder. Six main motivations were found, namely Love, Casual Sex, Ease of Communication, Self-Worth Validation, Thrill of Excitement, and Trendiness. Men scored higher in the motivations related to Casual Sex, Ease of Communication and Thrill of Excitement compared with women. In terms of age, older individuals tended to report more motivations related to Love, Casual Sex and Ease of Communication.

Our study

Even though nowadays the use of dating apps has become more frequent when searching for potential partner (Clemens et al., 2015), none of the previous studies have tried to access the real preferences of women using a simulation of Tinder. Therefore, the main aim of this study is to understand the female preferences for certain characteristics evidenced by potential mates – namely men with or without beard, men smokers or nonsmokers, and men with or without upper-body clothes – in a more realistic, Tinder scenario. In addition, in this study we question females about the type of relationship they are looking – long or short-term relationship. We will also investigate if the preferences for potential mates will be different depending on the phase of the menstrual cycle.

We have six hypotheses. First, we hypothesize that females will prefer photos of men with beard than without beard. This will be truth for both women looking for short-term relationships and for those looking for long-term relationships. More specifically, women will select more photos with beard than without beard to engage in a long-term relationship, because it is known that beard increases the perception of men's social status (Dixson & Vasey, 2012), a trait preferred by woman to engage in a long-term relationship (Buss & Barnes, 1986; Chang et al., 2011; Periloux et al., 2011). For short-term

relationship we expect that photos of men with beard will also be more selected than without beard, since clean-shaven faces were also found to be the least attractive for a short-term relationship (Dixon et al, 2016).

Second, we hypothesize that women looking for a long-term relationship will prefer more photos of nonsmokers than photos of smokers, because tobacco is a risky physical consumption behavior – due to the consequences that brings to their users (Vincke, 2016). This behavior can thus be viewed as a risk taking and researcher has shown that women looking for long-term relationships tend to prefer risk avoiders (Sylwester & Pawłowski, 2011). Third, we hypothesize that women looking for a short-term relationship will prefer more photos of smokers than nonsmokers as studies have shown that risk takers tend to be preferred by women looking for short-term relationships (Sylwester & Pawłowski, 2011).

Fourth, we hypothesize that women looking for a long-term relationship will choose more photos of men with upper-body clothes than without upper-body clothes. Buss and Schmitt (1993) found that the mate attribute *wants a commitment* was more desirable for individuals in a long-term mate. So, the photos of men with upper-body clothes comparative to photos without upper-body clothes might evidence traits like being more serious and more commitment to a relationship. Fifth, we hypothesize that for a short-term relationship the photos of men without upper-body clothes will be preferred than the photos of men with upper-body clothes. The photos of men without upper-body clothes exhibit more their physical attributes, which tend to have more value for women looking for short-term relationships (Li, 2007; Li & Kenrick, 2006).

Finally, based on the existing literature (e.g., Gangestad & Thornhill, 1998; Little, et.al 2007; Penton-Voak & Perrett, 2000) we also expect that the menstrual cycle will influence the female preferences. Therefore, we hypothesize that during the ovulation phase women will tend to choose more men with beard, because early studies demonstrated that during the ovulation phase female were more attracted to masculine faces (Penton-Voak & Perrett, 2000) and the beard had been showed to augment the masculinity of the face (Neave & Shields, 2008). Also, women in the ovulation phase tend to pursuit traits of men that signals good-genes, in order to obtained genetic benefits (Thornhill & Gangestad, 2008 cited in Cantú et al., 2014). So, we expected that females during these phase, will preferer the photos of men without smoking, because smokers had been seen as less healthy (Seiter et al., 2010) and preferer the photos of men without the upper-body clothes, because the photos might evidence more their good figures, like more masculine body a trait prefer on these phase (Little et al., 2007), and thus both signals good genes.

Method

Participants

An initial sample of 458 females participated in this study. Of these, 26 participants who were under 18 and over 30 years of age, homosexual and not enrolled at the university were excluded. Thus, our final sample was constituted by 431 females aged between 18 and 30 years old ($M = 20.16$; $SD = 1.92$). Relatively to sexual orientation, 403 (93.5%) were heterosexuals, 23 (5.3%) bisexuals and 5 (1.2%) pansexual. According to the university where they studied, 425 (98.6%) were from the University of Minho, 2 (.4%) of University of Porto, 1 (.2%) of College of Agriculture and 1 (.2%) of Polytechnic Institute of Viana do Castelo.

. Relatively to smoking behavior, 381 (88.4%) were nonsmokers, 49 (11.4%) were smokers, and 1 (.2%) did not answer. None of the females were pregnant. Regarding the use of hormonal contraceptives, 302 (70.1%) used contraceptive pill, 115 (26.7%) did not use any hormonal contraceptive, 7 (1.6%) used vaginal ring, 1 (.2%) used the sticker, and the final 6 (1.4%) used other hormonal contraceptive – 5 (1.2%) of those hormonal implant and 1 (.2%) intrauterine device. The mean approximate duration of the menstrual cycle was 27.96 days ($SD = 3.20$). Also, 373 (86.5%) have a regular menstrual cycle, 57 (13.2%) not have a regular cycle and 1 (.2%) did not answer. Females also indicated the duration of the average menstruation ($M = 4.70$; $SD = 1$). Relatively to Tinder, most of the participants said they knew the app Tinder ($n = 367$; 85.2%), 320 (74.2%) did not have a Tinder account, 39 (9%) had a tinder account in the past, and the other 8 (1.9%) had a tinder account at the moment. Those participants who knew the app indicated the frequency of the usage of the app on a scale from 1 (never) to 5 (always), ($M = 1.19$; $SD = .53$). Also, the participants that indicated having a Tinder account at the present or in the past reveal their satisfaction relatively to the app on a scale from 1 (very dissatisfied) to 5 (very satisfied) ($M = 2.34$; $SD = 1.13$) and the utility of the app on a scale from 1 (nothing useful) to 5 (very useful) ($M = 2.68$; $SD = 1.16$). Relatively to relationship status, 223 (51.7%) were not in a romantic relationship and 208 (48.3%) were in a relationship. Those females who said being in a romantic relationship, indicate their satisfaction with the relationship on a scale from 1 (extremely dissatisfied) to 7 (extremely satisfied) ($M = 6.29$; $SD = .94$). Also, 145 females (33.6%) referred they were looking for a potential partner. From those participants, 134 (31.1%) were looking for a long-term relationship and 11 (2.6%) for a short-term relationship. The psychology students from the first to the fourth year participated on the study in exchange for course credit. The other participants entered in a draw of supermarket vouchers, so that one in ten participants received a 10 euros voucher.

Instruments

Stimuli

Eighty-five photos of men were selected from online sources (e.g., Google search, Facebook). From this, sets of 40 men with beard, 15 men smoking, 15 men without the upper-body clothes, and 15 men without beard, were selected. Each set contained a mixture of head and head-and-torso shots, and both smiling and neutral expressions. Photos were cropped and edited to be 400 x 400 pixels and were displayed at in the center of the screen. Copies of all photos used in the experiment are available upon request. All photos were shown to independent female raters, who rated the photos in terms of attractiveness on a 10-point scale (1 = extremely unattractive; 10 = extremely attractive), estimated age and if they recognized the person. The evaluation of the photos was divided into 2 parts. The first 30 photos were evaluated by 36 females, aged between 19 and 27 years ($M = 20.78$; $SD = 1.99$). The last 55 photos were evaluated by 37 females aged between 19 and 27 years ($M = 20.43$; $SD = 1.78$). The photos were presented in one of two random orders. Based on the results of the independent ratings, a final database of photos was built. These photos were used for the construction of the simulation of the profiles of the app Tinder. First, the photos that two or more-people mentioned they recognized were deleted. Second, we removed the photos whose estimated average age was less than 20 and greater than 30. Third, we only included in each set photos with average ratings between 6 and 7, and we made sure that the average ratings were similar among sets. Fourth, we kept all the characteristics constant. Therefore, a total of 72 photos were selected, and four sets of photos were created. The average age of the males displayed in the photos was 23.71 year ($SD = 2.42$), and the average attractiveness ratings was 6.02 ($SD = 1.20$). In Set 1 (Control) all men had beard, upper-body clothes, and were not smoking. In Set 2 (No beard) all men had no beard, upper-body clothes, and were not smoking. In Set 3 (Smoking) all men had beard, upper-body clothes, and were smoking. Finally, in Set 4 (No clothes) all men had beard, no upper-body clothes, and were smoking.

Sociodemographic questionnaire

Each participant responded to a sociodemographic questionnaire consisting on questions regarding age, sexual orientation, smoking habits and university where they study. Participants were also asked if they were pregnant, duration of the menstrual cycle, first day of the last menstruation, how long the menstruation phase lasts, and if they take any hormonal contraceptive method. To assess their knowledge about the Tinder App, participants were asked if they knew the Tinder App, if they have/had a tinder account, and if they answered affirmatively, how frequently they used Tinder, how they classified Tinder in terms of satisfaction and utility. Finally, participants were asked if they were looking

for a potential short- or long-term partner, if they were currently in a romantic relationship and, for those who answered affirmatively, how satisfied were they in the relationship.

Simulation of Tinder

Each photo (see *Stimuli*) was used to construct a profile, and then all the profiles were used to simulate a Tinder application. Each profile had a picture with a name, attributed randomly and with the average age estimated by the independent female raters. Seventy-two trials were presented to each participant. There was no inter-stimulus interval, and after each response the next trial was followed. Also, there was no time limit to answer. In Figure 1, it is possible to see an example of a Tinder profile used.



Figure 1. Example of a Tinder Profile

Procedure

The dissertation was submitted to the Ethic Commission of University of Minho and the confidentiality of the data and of each participant was assured. First, a total of 85 photos was presented to independent female raters to select the stimuli. Then, we constructed the Tinder profiles.

First, the informed consent was given to the participants. Next, they fill the sociodemographic questionnaire whose responses were recorded using the Qualtrics software, Version 2017 of the Qualtrics Research Suite (www.qualtrics.com). Then, participants were exposed to the simulation of the Tinder App, containing the 72 profiles. This simulation was done using the Superlab software. Initially, the instructions were presented, and was explained that Tinder is a app for meeting new people and finding possible partners, and that each Tinder user could see many profiles which are normally constituted by a photo, name and age. Whenever a new profile is displayed, of the options provided by Tinder, two of the most used are the heart – indicating an interest on that profile –, and the X – indicating no interest on that profile. Their task was to imagine that they were on their Tinder account

and were seeing a series of profiles of potential partners. For each profile they were asked to indicate if they were potentially interested or not and if they thought it was interesting, they had to press the heart on the keyboard of the computer. Conversely, if they did not think the profile was interesting, they had to press the X. For each participant, the same photos were presented at a random order. The response time was also recorded for each participant. In total, the experiment lasted approximately 10-15 minutes.

Data Analysis

The data collected were first introduced in Excel and later imported into the statistical software Statistical Package for Social Sciences (SPSS; version 24), for the analyses. Our analysis included: a) t tests for paired samples to compare performance – both preferences and reaction time – when Control photos or No beard, Smoking, No Clothes photos were shown, b) t tests for independent samples to examine differences between female participants with different characteristics – smokers and nonsmokers, in a romantic relationship and not in a relationship, ovulating or not ovulating; c) ANOVA to examine differences between short and long term; and d) Pearson Correlations to see the relations between age, duration of the menstrual cycle, duration of menstruation, frequency of Tinder use, Tinder satisfaction, utility of Tinder, relationship satisfaction, sets of photos and reaction time.

To find out which women were ovulating, and which ones were not, we used an online site, in which they utilize the calendar method, based on average data. Thus, the site counts 15 days ahead of the benign of the menstruation and estimates the probably day of the ovulation. For this, we only had to enter the data provided by the participants regarding the duration of the menstrual cycle and the date of her last menstruation. Then, through the date of the experiment, we counted five days ahead and five days back and depending on the date that the site gave us as the day of ovulation estimated for each participant, we could see if each participant would be or not to ovulate on the day they performed the experiment. Only women who did not take any type of hormonal contraceptive method were included in the calculation of the estimated ovulation day.

Results

Before presenting the results, the four sets of photos created will be reminded. Set 1 (Control) was constituted with photos of men with beard, not smoking and with upper-body clothes. Set 2 (No beard) had photos of men without beard, not smoking and with upper-body clothes. In Set 3 (Smoking) the photos were of men smoking, with beard and with upper-body clothes. Finally, Set 4 (No clothes) was constituted with photos of men without upper-body clothes, with beard and not smoking.

Therefore, in the following analyses, Sets 2, 3 and 4 were compared with Set 1, as they all varied in one characteristic from Set 1.

Women's preferences in general

Figure 2 shows the average scores obtained for Set 1, Set 2, Set 3 and Set 4. *T*-test for dependent samples showed that females preferred the Control photos than the Smoking and No clothes photos, showing that they tended to prefer men that do not smoke ($M = 5.46$; $SD = 3.06$) than men who smoke ($M = 1.81$; $SD = 2.38$), $t(430) = 19.71$, $p < .001$. Also, tended to prefer the photos of men with upper-body clothes ($M = 5.46$; $SD = 3.06$) than without the upper-body clothes ($M = 4.57$; $SD = 3.41$), $t(430) = 4.82$, $p < .001$. No differences were found between Control photos ($M = 5.46$; $SD = 3.06$) and No beard photos ($M = 5.20$; $SD = 3.86$), $t(430) = 1.96$, $p = .05$.

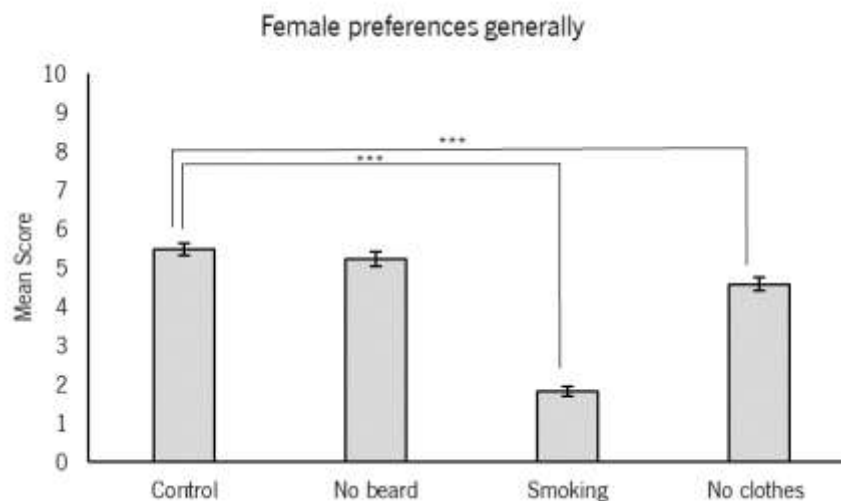


Figure 2. Average scores obtained for Set 1, Set 2, Set 3 and Set 4. Error bars represent standard error

Because no differences were obtained between Control photos and No beard photos, we then divided the sample depending on the sexual orientation: heterosexuals or bisexuals. A *t*-test for dependent samples showed that heterosexual females preferred the Control photos ($M = 5.50$; $SD = 3.04$) than the No beard ($M = 5.18$; $SD = 3.82$), $t(402) = 2.30$, $p < .05$, Smoking ($M = 1.77$; $SD = 2.36$), $t(402) = 19.65$, $p < .001$ and No clothes photos ($M = 4.64$; $SD = 3.40$), $t(402) = 4.46$, $p < .001$. These results suggest that heterosexual women tended to prefer the photos of men with beard than without beard, the photos of men not smoking than smoking and the photos of men with the upper-body clothes than without the upper-body clothes. Conversely, a *t*-test for dependent samples showed that bisexual females preferred the Control ($M = 5.25$; $SD = 3.50$) than the Smoking photos ($M = 2.09$; $SD = 2.35$), $t(22) = 3.30$, $p < .01$, showing that they tended to prefer the photos of men who was not smoking than the photos of men smoking. No differences were found between Control ($M = 5.25$; $SD = 3.50$) and No beard photos ($M = 5.96$; $SD = 4.31$), $t(22) = -1.01$, $p = .32$, as well as

between Control ($M = 5.25$; $SD = 3.50$) and No clothes photos ($M = 4.09$; $SD = 3.68$), $t(22) = 1.43$, $p = .17$. Reaction Time was also analyzed and results showed that, overall, females were quicker to decide which photos they like or not when they were presented with Smoking photos ($M = 1509.27$; $SD = 600.55$) than Control photos ($M = 1607.23$; $SD = 538.63$), $t(430) = 4.02$, $p < .001$. No differences were found between Control photos ($M = 1607.23$; $SD = 538.63$) and No beard photos ($M = 1623.27$; $SD = 676.12$), $t(430) = -0.6$, $p = .53$, and between Control photos ($M = 1607.23$; $SD = 538.63$) and No clothes photos ($M = 1647.67$; $SD = 714.00$), $t(430) = -1.59$, $p = 0.11$.

Short- versus Long-term preferences

Figure 3 shows the average preference for each set of photos, for those women that were looking for a short or for a long-term partner. Data were entered into a 2x4 repeated-measures analysis of variance (ANOVA) with short/long term as between-subjects factor, and Set (Beard, No beard, Smoking and No clothes) as within-subjects factor. Results showed a principal effect of Set, $F(3,429) = 14.23$, $p < .001$. However, the interaction Set versus short/long term was not significant, $F(3,429) = 0.25$, $p = .79$.

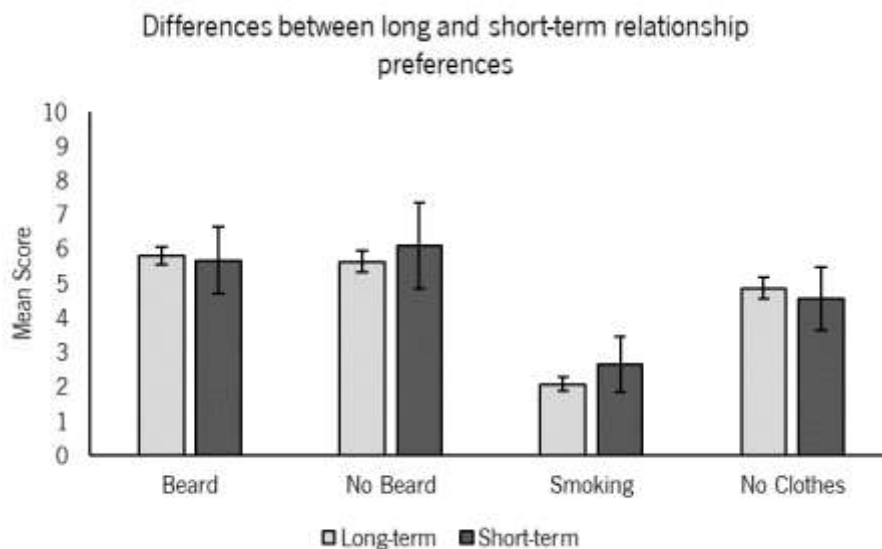


Figure 3. Average scores obtained for Set 1, Set 2, Set 3 and Set 4 between long and short-term preferences. Error bars represent standard error.

Regarding those females who were looking for a long-term partner, t -tests for dependent samples showed that females preferred the Control than Smoking and No clothes photos. This indicated that women looking for a long-term relationship tended to prefer men that do not smoke ($M = 5.79$; $SD = 2.95$) than men who smoke ($M = 2.07$; $SD = 2.47$), $t(133) = 11.25$, $p < .001$, and tended to prefer men with upper-body clothes ($M = 5.79$; $SD = 2.95$) than without upper-body clothes ($M =$

4.86; $SD = 3.56$), $t(133) = 2.96$, $p < .01$. No differences were found between Control ($M = 5.79$; $SD = 2.95$) and No beard photos ($M = 5.63$; $SD = 3.69$), $t(33) = 0.63$, $p = .53$.

For short-term preferences, no differences were found between Control ($M = 5.67$; $SD = 3.22$) and No beard ($M = 6.09$; $SD = 4.11$), $t(10) = -0.74$, $p = .47$, Smoking ($M = 2.64$; $SD = 2.73$), $t(10) = 2.02$, $p = .07$) and No clothes photos ($M = 4.55$; $SD = 3.08$), $t(10) = 0.80$, $p = .45$.

The Reaction Time was also analyzed, and results showed that females were quicker to decide which photos they liked or not on Smoking ($M = 1541.45$; $SD = 613.84$) than on Control photos ($M = 1726.67$; $SD = 623.89$), $t(133) = 4.02$, $p < .001$ for a long-term relationship. However, the opposite was verified for a short-term relationship. In other words, they were quicker to decide which photos they like or not on Control ($M = 1787.32$; $SD = 688.41$) than on Smoking photos (Smoking) ($M = 2051.55$; $SD = 799.10$), $t(10) = -4.84$, $p < .01$. No differences were found between the Control ($M_{Long} = 1726.67$; $SD_{Long} = 623.89$; $M_{Short} = 1726.67$; $SD_{Short} = 623.89$) and No beard ($M_{Long} = 1758.11$; $SD_{Long} = 825.13$; $M_{Short} = 2041.57$; $SD_{Short} = 862.29$), for women that were looking for long or short-term relationships, $t(133) = -0.61$, $p = .54$, $t(133) = 1.18$, $p = 0.24$. In addition, no differences were found between the Control and No clothes photos ($M_{Long} = 1676.48$; $SD_{Long} = 744.07$; $M_{Short} = 1794.63$; $SD_{Short} = 1158.13$) for both long- and short term relationships, $t(10) = -1.19$, $p = .26$ and $t(10) = -0.03$, $p = 0.97$, respectively.

Ovulation phase differences

A t -test for independent samples was used to determine possible differences between those females who were likely to be ovulating and those who were not. Results showed no differences regarding their preferences for the Control, $t(101) = -0.11$, $p = .91$, No beard, $t(101) = 0.74$, $p = .46$, Smoking, $t(101) = 1.05$, $p = .30$ and No clothes photos, $t(101) = 0.60$, $p = .56$. However, women who were not on their ovulation phase were quicker to decide which photos they liked or not than the females who were on their ovulation phase, $t(429) = -2.02$, $p < .05$. More specifically, women who were on their non-fertile period were quicker to decide which photos they liked or not from Control, $t(101) = -2.70$, $p < .01$ and No clothes photos, $t(101) = -2.08$, $p < .05$. No differences were found for the No beard, $t(101) = -1.19$, $p = .24$ and Smoking photos, $t(101) = -0.69$, $p = .49$.

Differences in relationship status

To see if there were any differences between the females who were currently on a relationship and those who were not, a t -test for independent samples was used. Results showed that females who were not on a relationship ($M = 2.07$; $SD = 2.45$) tended to choose more Smoking photos than the females who were on a relationship ($M = 1.53$; $SD = 2.28$), $t(429) = -2.36$, $p < .05$. However, no differences were found between the females who were on a relationship and those who were not

regarding preferences for the Control, $t(429) = -1.00, p = .32$, No beard, $t(429) = -1.82, p = .07$, and No clothes photos, $t(429) = -1.16, p = .25$.

Moreover, females who were in a relationship were overall quicker to decide what photos they liked or not ($M = 1549.24; SD = 442.86$), than the females who were not on a relationship ($M = 1647.96; SD = 561.18$), $t(429) = -2.02, p < .05$. More specifically, females who were on a relationship were faster to decide when they were presented with Control, $t(429) = -2.23, p < .05$, No beard photos, $t(413.90) = -2.94, p < .01$. No differences were found for Smoking, $t(429) = -1.20, p = .23$ and No clothes photos, $t(429) = 0.16, p = .87$.

Smoke Behavior differences

A t test for independent samples was conducted to examine if there were any differences between female smokers and nonsmokers. Results showed that female smokers ($M = 3.08; SD = 2.84$) selected more Smoking photos than females nonsmokers ($M = 1.65; SD = 2.27$), $t(56.22) = 3.40, p < .01$. No differences were found for the Control, $t(428) = -1.09, p = .28$, No beard, $t(428) = -1.79, p = .08$, and No clothes photos, $t(428) = -0.92, p = .36$.

In addition, female nonsmokers were faster to decide when they were presented with Smoking photos ($M = 1485.90; SD = 582.95$) than females smokers ($M = 1776.70; SD = 674.90$), $t(428) = 3.34, p < .01$. No differences were found for the Control, $t(428) = 0.43, p = .66$, No beard, $t(428) = -0.93, p = .35$ and No clothes photos, $t(428) = -0.83, p = .41$.

Correlational Analyses

To find possible relations between age, duration of the menstrual cycle, duration of menstruation, frequency of Tinder use, satisfaction with Tinder, utility of Tinder, relationship satisfaction, Sets (Set 1, Set 2, Set 3, Set 4) and Reaction time (Set 1 RT, Set 2 RT, Set 3 RT, Set 4 RT), Pearson correlations were used. Results are shown in Table 2.

Age was significantly positively correlated with frequency of Tinder use [$r(357) = .23, p < .01$], with Set 1 [$r(431) = .29, p < .01$], Set 1 RT [$r(431) = .18, p < .01$], Set 2 RT [$r(431) = .10, p < .05$], Set 3 RT [$r(431) = .17, p < .01$] and with Set 4 RT [$r(431) = .15, p < .01$]. In addition, age was significantly negatively correlated with the duration of menstruation [$r(425) = -.17, p < .01$]. Therefore, older females tended to have less days of menstruation, used more frequently Tinder, selected more photos of Set 1 (Control) and were slower on the selection of the photos for each set of photos.

The frequency of Tinder use was significantly positively correlated with Tinder satisfaction [$r(47) = .36, p < .05$] and with utility of Tinder [$r(47) = .42, p < .01$], showing that the more women used Tinder, the more satisfied they were with it and the more useful they thought Tinder was. The

satisfaction with Tinder was significantly positively correlated with the utility of Tinder [$r(47) = .55, p < .01$], showing that females who were more satisfied with tinder tended to think it was more useful.

Relatively to relationship satisfaction, it was significantly negatively correlated with preferences for Set 1 (Control) [$r(208) = -.22, p < .01$], Set 2 (No beard) [$r(208) = -.15, p < .05$], Set 3 (Smoking) [$r(208) = -.15, p < .05$] and Set 4 (No clothes) [$r(208) = -.18, p < .05$]. In other words, females who were more satisfied with their relationship tended to select fewer photos.

Set 1 (Control) was significantly positively correlated with Set 2 (No beard) [$r(431) = .72, p < .01$], Set 4 (No clothes) [$r(431) = .31, p < .01$], Set 1 RT [$r(431) = .12, p < .05$] and Set 3 RT [$r(431) = .14, p < .01$]. Therefore, women who selected more Control photos tended to also select more photos of No beard and No clothes photos, and to be slower choosing Control and Smoking photos. Set 2 (No beard) was significantly negatively correlated with Set 3 (Smoking) [$r(431) = -.10, p < .05$] and was significantly positively correlated with Set 4 (No clothes) [$r(431) = .17, p < .01$], showing that the more No beard photos were selected, less Smoking photos were selected and more No clothes photos were chosen. Set 3 (Smoking) was significantly positively correlated with Set 4 (No clothes) [$r(431) = .47, p < .01$] and Set 3 RT [$r(431) = .21, p < .01$]. This shows that women who selected more Smoking photos 3 tended to also select more No beard photos and were slower when smoking photos were presented. Set 1 RT was significantly positively correlated with Set 2 RT [$r(431) = .64, p < .01$] and Set 3 RT [$r(431) = .61, p < .01$], showing that as more time was spent on Set 1, more time was also spent on Sets 2 and 3. Set 2 RT was significantly positively correlated with Set 3 RT [$r(431) = .42, p < .01$] and Set 4 RT [$r(431) = .50, p < .01$], showing that as more time was taken on Set 2, more time was also taken on Sets 3 and 4. Finally, Set 3 RT was significantly positively correlated with Set 4 RT [$r(431) = .80, p < .01$], showing that as more time was taken on Set 3, more time was taken on Set 4.

Table 1

Correlations between Age, Duration of the Menstrual Cycle, Duration of Menstruation, Frequency of Tinder Use, Tinder Satisfaction, Utility of Tinder, Relationship Satisfaction, Sets (Set 1, Set 2, Set 3, Set 4) and Reaction time (Set 1 RT, Set 2 RT, Set 3 RT, Set 4 RT).

| Variables | Age | DMC | DM | FT | TS | UT | RS | S1 | S2 | S3 | S4 | S1 RT | S2 RT | S3 RT | S4 RT |
|------------------|------------|------------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|--------------|--------------|--------------|--------------|
| Age | - | -.00 | -.17** | .23** | .05 | -.01 | -.10 | .29** | -.05 | .04 | .08 | .18** | .10* | .17** | .15** |
| DMC | | - | .05 | .00 | -.12 | .04 | .05 | -.01 | .04 | -.04 | -.05 | .02 | .07 | .00 | .03 |
| DM | | | - | .05 | -.28 | -.12 | .09 | -.08 | -0.6 | -.05 | -.05 | -.01 | .07 | -.01 | -.03 |
| FT | | | | - | .36* | .42** | -.05 | .03 | -.04 | .04 | -.03 | -.01 | -.05 | .08 | -.04 |
| TS | | | | | - | .55** | .11 | .03 | -.13 | .04 | -.18 | -.13 | .03 | .04 | -.19 |
| UT | | | | | | - | .17 | -.12 | -.23 | -.24 | -.11 | .11 | .13 | .08 | .03 |
| RS | | | | | | | - | -.22** | -.15* | -.15* | -.18* | -.01 | .04 | -.03 | -.07 |
| S1 | | | | | | | | - | .72** | .02 | .31** | .12* | .05 | .14** | .07 |
| S2 | | | | | | | | | - | -.10* | .17** | -.00 | .02 | -.02 | -.05 |
| S3 | | | | | | | | | | - | .47** | -.05 | -.06 | .21** | -.07 |
| S4 | | | | | | | | | | | - | -.02 | -.01 | .08 | .05 |
| S1 RT | | | | | | | | | | | | - | .64** | .61** | .68** |
| S2 RT | | | | | | | | | | | | | - | .42** | .50** |
| S3 RT | | | | | | | | | | | | | | - | .52** |
| S4 RT | | | | | | | | | | | | | | | - |

Note. Duration of Menstrual Cycle (DMC); Duration of Menstruation (DM); Frequency of Tinder Use (FT); Tinder Satisfaction (TS); Utility of Tinder (UT); Relationship Satisfaction (RS); Set 1 (S1); Set 2 (S2); Set3 (S3); Set 4 (S4); Set 1 Reaction Time (S1 RT); Set 2 Reaction Time (S2 RT); Set 3 Reaction Time (S3 RT); Set 4 Reaction Time (S4 RT).

* $p < .05$, ** $p < .01$

Discussion

The main aim of this study was to understand the females' preferences using a simulation of Tinder. For that, it was created four Sets of photos.

Results showed that, in general, women did not have a preference between the photos of men with beard (Control) and without beard (No beard). However, when we analyzed only the heterosexual females – and not the bisexual – we found that they selected more photos of men with beard than without beard. These results were consistent with our first hypothesis that females prefer photos of men with beard than without beard both for short-term and long-term relationships. Other studies also found differences between beard faces and clean-shaven faces (e.g., Reed & Blunk, 1990; Bakmazian, 2014). When we analyzed only the bisexual females we found that there was no difference between the number of photos of men with beard than without beard selected. This finding is consistent with some studies that have not found differences between faces with beard and clean-shaved faces (e.g., Dixon & Brooks, 2013; Saxton, Mackey, McCarty & Neave, 2015). As said by Dixson et al. (2016), these controversial results might be due to traits that male with beard and more masculine had been associated, such as antisociality. Also, these differences could be due to the stimulus presented. As said by Saxton et al. (2015) the variation in facial hair density and distribution, and the type of stimulus that was presented to the participants might explain the results. The results between female heterosexuals and bisexuals were also intriguing. Besides the sample were to low (n = 23) further studies should explore this in a profound way.

Results showed that females preferred the photos of men nonsmokers than smokers for a long-term relationship. This was consistent with our second hypothesis. In fact, smokers have been associated with many negative traits, like being less healthy, attractive, clean and considerate (Dermer & Jacobsen, 1986; Seiter, Weger, Merrill, Mark McKenna & Sanders, 2010) and with several diseases, such as lung cancer and cardiovascular diseases (Fraga et al., 2005).

Results showed that, for a short-term relationship, women did not have a preference between the photos of smokers and nonsmokers. This is inconsistent with our third hypothesis that said that women will prefer a men smoker for a short-term relationship. However, the number of females on the short-term condition was very low – eleven – and therefore further conclusions cannot be drawn.

Results showed that the photos of men with upper-body clothes was preferred than the photos without the upper-body clothes for a long-term relationship. This was consistent with our four hypotheses. In fact, a photo without the upper-body clothes could attract more attention from a potential partner and could lead to infidelity. A study from DeWall et al. (2011) showed that the greater

the range of alternatives, and the more appealing the potential partners are, the greater the likelihood of an individual to be unfaithful.

Results showed that women did not have a preference between the photos of men with and without upper-body clothes for a short-term relationship. This is inconsistent to our fifth hypothesis that women will select more photos of men without upper-body clothes. Like our third hypothesis, the number of females on the short-term condition was very low – eleven – and therefore further conclusions cannot be drawn. This low sample on short-term condition was also been evidenced on a study from Tadinac and Hromatko (2006). In their study, from a sample of 2655 in which 1682 were females, only 12% said they were interested on a short-term relationship. Moreover, some authors have demonstrated that females tended to avoid short-term relationships (e.g., Geary, Vigil & Byrd-Craven, 2004; Miller & Fishkin, 1997), because of the higher costs of pursuing this type of relationship, such as a unwanted pregnancy, catching a sexually transmitted disease or even reducing the own value as a long-term mate (e.g., Geary, Vigil & Byrd-Craven, 2004). Nevertheless, research has shown that women can sometimes engage on this type of relationship when the benefits outweigh the costs (Geary, Vigil & Byrd-Craven, 2004).

Results showed no differences on the preferences for the Control, No beard, Smoking and No Clothes photos, between the females who were ovulating and those who were not. This result is inconsistent with our six hypothesis, that women in ovulation phase will prefer more photos of men with beard, not smoking and with upper-body clothes. The lack of results on this field might be due to the online system that we use for estimating the ovulation day, like the count-back system used in other studies (e.g., Röder, Brewer & Fink, 2009; Haselton & Gangestad, 2006). This system is susceptible to errors, for the fact that females might not recall the exactly day of their menstruation, and this not take into consideration the individual differences in variations on the start or duration of the ovulation days (Fehring, Schneider & Raviele, 2006; Small, Manatung & Marcus, 2007). Some prior studies have also found no differences across fertility days (e.g., Dixon, Tam & Awasthy, 2012). However, we found that, overall, females who were not ovulating were quicker to decide which photos they liked or not in comparison to females who were ovulating. This might suggest that when females are on their fertile days they tend to spend more time analyzing the photos and have higher interest on a potential partner. This is consistent with studies that showed for example, that women near the ovulation tend to feel more attracted and flirted more with men that are not their primary partner (Gangestad, Thornhill & Garver, 2002) and that in terms of sexual desire, it seems to show a peak near the ovulation phase, where women also appear to demonstrate more sexual fantasies (Bullivant et al., 2004).

Furthermore, females who were not on a relationship prefer more the Smoking photos than the females who were on a relationship. This might be due to the fact of the negative consequences that tobacco brings (Fraga et al., 2005) and their influence is higher in long-term relationships. We also found that females' smokers had a higher preference for the photos of men who were smoking than females' nonsmokers. These results are consistent with prior studies (e.g., Polivy, Hackett & Bycio, 1979). The results could be explained based on similarity-attraction effect, that states individuals tend to appreciate others similar to them (Boyden, Carroll & Maier, 1984; Montoya & Horton, 2013).

The correlations analyses showed that older females tended to have less days of menstruation. In fact, there is a reduction in the length of the cycle due to a decrease in hormones, until the menopausal phase (Sherman, & Korenman, 1975). Overall, they were slower on the selection of the photos for each set of photos, consistency with the literature that said that reaction time increases with age (Der, & Deary, 2006). Also, as more satisfied women were with their relationship the fewer photos they selected. In our view, since relationship unsatisfaction has been positively associated to infidelity (e.g., Atkins, Baucom & Jacobson, 2001; Buss & Shackelford, 1997), those females who were satisfied with their relationship did not seek for an extra mate.

Nevertheless, some limitations should be considered not only for the interpretation of the results but also for future research. First, the data was collected in person and although we tried to control external factors, some of the participants were inattentive during the experiment and often commented on the experience with other participants, thus altering their concentration with the task and increasing response time and responses by chance. Also, the mean age of our sample was 20 years old. Therefore, it will be interesting to see if in a sample with older participants the same results would be found. Relatively to the profiles of Tinder, we controlled some variables on the photos and between Sets, but other characteristics – such as the color and type of the clothes – may have contributed to the results. In terms of the menstrual cycle, our results were based on estimated ovulation day and not on the precise day of ovulation. Future studies should use a more accurate measure, like ovulation tests. Other limitation of this study was the sample size, specifically regarding the number of women looking for a short-term relationship.

Conclusion

This study showed that women have preferences for some characteristics evidenced on the photos that men share on their Tinder profiles. More precisely, heterosexual females who were looking for a long-term relationship tend to prefer photos of men with beard, not smoking and with upper-body clothes. We also found that the smoking status of the females influence the preferences, in which female smokers choose more males also smokers than females nonsmokers.

In a world which mobile dating apps are more used to meet potential partners, this study contributed to understand what makes the women swipe right. Furthermore, men should be paying attention to these results, because the pictures that they share on his profile will influence the type of females that will be attracted to them and will influence the numbers of females that like their photos.

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